

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, July 2, 2004

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FROM THE DIRECTOR'S OFFICE

Hal Graboske

Defining S&T strategy to remain best in class

When I came to this Laboratory more than 35 years ago, I was impressed by the willingness to explore new ideas and take on path-finding approaches to meeting the nation's most pressing — and often most challenging — scientific needs.

That "Passion for Mission" has been the fuel that feeds our scientific and technical horsepower — the reason the nation continues to look to this Lab to take on demanding missions.

But how do we sustain that vitality and even improve upon it? And how do we strengthen the Lab's abilities to meet future goals or respond to emerging missions?

DIRECTOR'S OFFICE, page 6

Retirement redux: Graboske leaves Lab after 38 years

By Lynda Seaver
NEWSLINE STAFF WRITER

This time, he really is retiring. After 38 years in a diverse career culminating with the role of deputy director for Science and Technology, Hal Graboske is leaving the Laboratory.

Graboske came close, within hours, two years ago when he was serving as associate director for Chemistry and Materials Science. Then newly appointed Director Michael Anastasio persuaded Graboske to hang on just a little while longer by filling in

Interim positions to fill vacancies

With the retirements of Hal Graboske, Den Fisher, CK Chou and Phil Schultz earlier this week, Director Michael Anastasio has appointed interim replacements until the search committees have selected permanent managers.

Active search/screen-
POSITIONS, page 9

GRABOSKE, page 9

Lab wins five R&D 'Oscars'

By Stephen Wampler
NEWSLINE STAFF WRITER

Laboratory researchers have captured five awards for developing advanced technologies with commercial potential.

Five teams of LLNL scientists, including two with industrial or university collaborators, have won plaques from the trade journal R&D Magazine for being among the top 100 industrial innovations worldwide for 2003.

This year's R&D 100 awards, often called the "Oscars of Invention," will be presented Oct. 14 during a black-tie dinner at the Navy Pier

R&D AWARDS, page 5



Inductrack, a magnetic levitation (maglev) system that uses new arrangements of permanent magnets to create its levitating fields, offers a simple, low-cost solution to the need for efficient transportation.

NARAC adds indoor tracking to its capabilities

By Charlie Osolin
NEWSLINE STAFF WRITER

In a boost for homeland security, LLNL's National Atmospheric Release Advisory Center (NARAC) will soon be able to track and predict the movement of chemical and biological agents and other hazardous material indoors as well as outdoors.

The expanded capability is the result of a two-year collaboration between NARAC's Gayle Sugiyama and a team from the Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory (LBNL).

"NARAC is a widely used tool for pre-

NARAC, page 12

Fire Department celebrates 50 years of service

The Laboratory's Fire Department marked 50 years of service this week to the main Lab site and Site 300, and almost as many years of service to the surrounding community.

In a special ceremony marked by a Protective Force color guard and the playing of the bagpipes, Lab firefighters commemorated a flagpole and special plaque honoring brethren firefighters who lost



ANNE M. STARK/NEWSLINE

Lab firefighters commemorated a flagpole and special plaque honoring firefighters who died on September 11 during a ceremony this week.

FIRE DEPARTMENT, page 7



Infusion
of humor

— Page 3



Cup 'o joe
aids disabled

Page 7



LLESA to
celebrate 50

— Page 8



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Friday
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The City of Pleasanton has been designated as an official overnight city for the 22nd running of **The Great Race**. More than 100 vintage automobiles participating in The Great Race, a 4,000-mile motor sports competition across America, will visit Pleasanton today. The cars are scheduled to begin coming under the downtown arch at 6 p.m. The Pleasanton Great Race Committee invites visitors to help provide a warm welcome to the participants and their families.

Tuesday
6

Effective today all “**temporary**” stop signs along Fifth Street at the Avenue A and Avenue B intersections will be removed, and Fifth Street will become an east/west through-street between West Perimeter Drive and West Inner Loop. Motorists driving in the north/south directions on Avenue A and Avenue B must continue to stop at Fifth Street, as directed by traffic signs. The “temporary” stop signs along Fifth Street have been in place for approximately three months, creating four-way stops to help employees transition from stopping in the east/west direction, to stopping in the north/south direction.

Wednesday
7

Employees interested in learning more about **Calvert investments** may attend a presentation given by the Calvert Group today from noon-1p.m. in Bldg. 571, conference room 2000. Calvert investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. Calvert's social investment program offers 403(b) participants 10 investment portfolios in five mutual fund categories. Following the presentation, a Calvert representative will be available to meet with employees one-on-one in the Benefits Office. You may schedule an appointment by calling 2-9957.

Thursday
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A **Fidelity retirement counselor** will be available today and July 12 to assist with: assessing the current state of retirement accounts, learning how to diversify, planning asset allocation, and identifying income strategies. Fidelity Investments Mutual Funds are available to UC's workplace retirement plan participants in addition to the UC-managed investments pools. If you would like to set up a consultation, call 800-642-7131. When calling, be sure to specify that you are an LLNL employee.

UP
&
COMING

Bay Area and Northern California residents are invited to display their 1960s and 1970s “muscle cars” in the **First Muscle Car, Hot Rod and Art Fair**, to be held from 10 a.m. to 5 p.m. on Sunday, Aug. 8, at the grassy field on the corner of Bollinger Canyon Road and Camino Ramon in San Ramon. To sign up a car or for more information, call Sparky George at (925) 855-1950.

RETIREES' CORNER

Newsline available on Web and at Library

Current and past issues of *Newsline* are available from the *Newsline* archive on the Web. The latest edition of *Newsline* is usually posted on the Web the afternoon of the Friday it appears. To access the archive: <http://www.llnl.gov/llnl/06news/employee.html>

Newsline also is available in the publication alcove at the front of the new Livermore Public Library in the Civic Center. The latest editions are delivered to the library at the close of business Friday.

Tom (Electronics) and **Joan Lincicome** (Telecommunications, 1990) recently took a Copper Canyon trip in Mexico. The Copper Canyon is much larger than our Grand Canyon. They spent two nights at a hotel on the rim of the canyon, a beautiful view, especially early in the morning. They celebrated their 52nd wedding anniversary at a lovely restaurant in the middle of an apple orchard in Mexico. It was really an interesting trip.

Fred Kovar (B Division and NAI, 1993) and his wife **Peg** just returned from a trip to Washington D.C. to visit old haunts and old friends. Fred was on the staff of the Assistant to the Secretary of Defense (ATSD-Atomic Energy) in the Pentagon from 1984-1986. The ATSD was Rich Wagner for the first year, then Bob Barker for the second year. While in D.C., Fred and Peg visited the new World War II Memorial and many galleries and museums. They finished their trip with visits to Chancellorsville, Williamsburg and Jamestown, Virginia.

Retirees **Dick Rufer** and **Camille Minichino** (both Electronics Engineering, 1990) had a reunion recently with **Liz** (Yucca Mountain, 1993) and **Don Campbell** (Electronics Engineering, 1996) in the Campbells' beautiful Auburn home. Rumor has it that some ancient tube technology changed hands.

New publications from Camille include “The Carbon Murder,” released March 1, and the paperback edition of “The Boric Acid Murder,” released June 1, and an article in *Reunions* magazine, also in June. The “Nitrogen Murder” is complete and scheduled for release in early 2005. Camille will be teaching a writing workshop on Saturday, July

10, through the Pleasant Hill Recreation and Park District. Details about this and other classes can be found at <http://www.mnichino.com/>.

back to his new North Carolina home.

Regina and Fritz Frick sent a postcard from Ulm, Germany with greetings to all retirees. They are enjoying their stay and the food and beer.

Chuck Woods (Engineering, 1998) and **Chris Bach** (Property Management, 1998) continued their sojourn north on May 5. They are traveling through Canada and into Alaska on their trawler, *Lucretia Belle*. Chuck and Chris are fishing and crabbing their way towards Sitka where they hope to moor their boat in October. Their plans are to work at the Sitka Raptor Center through the Alaskan winter.

The July retiree luncheon will be held at Cattlemen's Restaurant at noon on July 21. Reservations can be made at www.llnlretirees.org. **Richard Post** will be the speaker. The title of his talk is “The Inductrack, a Home-Grown Maglev System for our Nation,” which describes a new approach for magnetic levitation of trains, a spin-off from earlier work on magnetic bearings for flywheel energy-storage systems. Note: the pasta dish price is now \$21 because it is not a regular menu item.

Please send any input to Jane or Gus Olson. E-mail: AugustO@aol.com or JaneRubert@aol.com; phone: (925) 443-4349; or snail mail address: 493 Joyce Street, Livermore, CA 94550.

IN MEMORIAM

Ralph Norbert Seichter

Ralph Norbert Seichter, a 50-year resident of Livermore, died June 24. He was 68.

Born in Charlesberg, Wis., on Dec. 27, 1935, Seichter worked as a computer scientist at the Laboratory for 37 years. He also served in the U.S. Air Force.

He enjoyed fishing, hunting, baseball, softball, camping and managing local softball teams.

He is survived by his daughters, Roxanne Seichter of Livermore and Kathleen Seichter Ingalls of Moreno Valley; his son, John Seichter of Wisconsin; his sister Maryann Seichter of Wisconsin; his brothers, Daniel Seichter, Gordon

Seichter and Jerome Seichter, all of Wisconsin and his four grandchildren.

In lieu of memorial donations, the family requests that those who wish to honor Seichter spend the money on fishing, a camping trip or for an act of kindness.

Newsline

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Laboratory pool closes due to structural concerns

Recent inspections of the area surrounding the pool have identified potential serious structural integrity concerns. To protect users, the Laboratory has closed the pool while it further investigates these issues.

More information will be provided through *NewsOnLine* and *Newsline* as the Laboratory moves through the review process.

AROUND THE LAB



Cancer survivor wins battle after two bouts with disease

By Anne M. Stark

NEWSLINE STAFF WRITER

With sparkling eyes and a crooked smile, Terri Tate has learned to listen to herself.

The two-time oral cancer survivor only has six bottom teeth and no jawbone on the left side of her face, but that doesn't bother her because when she was given a 2 percent chance of surviving, she stepped up to the plate and hit a homerun for life.

"We have to realize that we're not in charge of timing and in fact, we're not in charge of much," Tate, a registered nurse and inspirational speaker, said Tuesday during the kickoff event in the 2004 LLNL Cancer Awareness Campaign. "I'm here 11 years later when all I had was a 2 percent chance of survival."

Tate experienced her first bout of oral cancer in December 1991. According to her, it wasn't the most ideal time. With her impending wedding and the holidays around the corner, she didn't really think all that much was wrong when she noticed a sore underneath her tongue.

She kept checking on it to see if it was growing but looked at it so often, she couldn't tell if it was getting larger or going away.

"I thought it had started to diminish," she said. "I remember waking up and thinking 'it doesn't hurt anymore.' Then I would get out of bed and tip-toe to the mirror so as not to wake up my nerve sensors. But then I came to realize that it was still hurting."

Two months later, an ear, nose and throat surgeon removed what turned out to be a cancerous tumor and her lymph nodes and assured Tate that he had removed all the cancer and she didn't require radiation treatment.

"I was full of gratitude and thanks," Tate said. "I promised God that I would eat healthier, drink wheat grass, exercise more and work less... Basically, it was a



JACQUELINE MCBRIDE/NEWSLINE

Registered nurse and inspirational speaker Terri Tate infuses humor when discussing her cancer battle Tuesday as part of the LLNL Cancer Awareness Campaign.

to her ear, nose and throat surgeon, whom she had become good friends with, and he didn't notice anything suspicious.

"It was getting hard to eat this time so I knew it was something," Tate said.

By November, she noticed a significant lump and at her Dec. 1 biopsy, the tumor was the size of a golf ball "where my tongue used to be," she said.

With the removal of the tumor, most of Tate's jaw on the left side of her face was also removed. A reconstructive surgeon had plans to reconstruct her jawbone with the help of tissue and bone from her hip. The process failed seven times when the vessels collapsed. So a different procedure was used in which tissue was removed from her breast to help reconstruct her jaw.

"Part of my left breast is on permanent loan to my jaw," she quipped. "I have a very interesting anatomy."

She had to learn to eat again by squirting drops of liquid through a tube connected to a syringe into her mouth without choking. She said the extremely difficult process caused her to start doubting she would survive.

"That's one of the times I was thinking of giving up," Tate said. But with persistence, she survived seven weeks of radiation treatment. Then the reconstructive bar holding up her jaw came loose.

"At this point, my strategy of listening to experts came to an end," she said. "I had to find the expert inside. I had to listen to me."

And that voice inside her head told her to stop the reconstructive surgery and accept herself the way she was, even if that was a little disfigured.

"It's been quite a journey," she said. "Remember the importance of your own intuition. You know yourself better than the doctor does."

Raising cancer awareness through onsite events

The 2004 LLNL Cancer Awareness Campaign continues this month through July 27.

Lab and Sandia employees have joined together in an effort to raise awareness of the significant impact cancer has on everyone's lives. The primary goals are to develop awareness of cancer-related issues for specific community, support groups and organizations onsite and cancer-related research conducted at the Lab.

- **"Complementary Medicine and the Role of Spirituality in Healthcare,"** by Dr. John Astin will take place at noon on Wednesday, July 7, in the Bldg. 543 auditorium. Astin received his Ph.D. in health psychology and was a research fellow in the Complementary and Alternative Medicine Program at Stanford University School of Medicine. Astin will share his research involving mind-body therapies, meditation and the role of spirituality to treat cancer and other health problems.

- **The 30-minute survivor and memorial walk** will begin at 12:15 p.m. on Tuesday, July 13, on the south lawn of Bldg. 361. The cancer survivors and memorial walk is to honor those who have passed away as a result of cancer and to celebrate the lives of those who have survived.

- **"Stamp Out Breast Cancer,"** by Dr. Ernie Bodie will be held at noon Wednesday, July 21, in the Bldg. 123 auditorium. Bodie, a prostate cancer survivor, is the director of breast surgical services at Kaiser Permanente and founder of the breast cancer research postage stamp, which has so far raised more than \$35 million for breast cancer research.

- **"Survivors and Caregivers"** at 12:15 p.m. on Tuesday, July 27, will feature a panel of Lab and Sandia survivors and the loved ones who provided care and support for them and will share the vital role caregivers play.

For further information, contact Mark Costella, 2-8999, or Cathy Kaplan, 3-6555.

whole litany of lies."

By the fall of 1992, as she was busy working, she realized she wasn't feeling all that good. She went back

BRIEFLY

California Casualty to meet with employees

A representative from California Casualty Insurance will be in the Benefits Office today (July 2). Appointments are required and may be scheduled by calling 2-9955. California Casualty offers individual rates to Lab employees by payroll deduction for auto and homeowner/renter insurance. As with any employee-paid insurance coverage, employees are encouraged to comparison shop.

New revisions to the ES&H Manual

Document 2.2, "Managing ES&H for LLNL Work" has been revised in Section 3.3.2 to reflect the requirement for the AI to review minor changes to

IWSs for Category 2 and 3 nuclear facilities. Document 2.2 is available online at: http://www.llnl.gov/es_and_h/hsm/doc_2.02/doc2-02.html

Document 52.1, "LLNL Maintenance Implementation Plan for Nonreactor Nuclear Facilities," has been updated to allow LLNL to conduct transuranic (TRU) waste legacy project activities in two temporary locations in the B695 segment of the Decontamination and Waste Treatment Facility (DWTF). New sections were added to discuss the TRU Waste Characterization segment and the TRUPACT II Loading segment. Area 514 was moved from a radiological facility into the non-nuclear section, and Bldg. 280 was removed from the list of RHWM facilities. Document 52.1 is available online at: http://www.llnl.gov/es_and_h/hsm/doc_52.01/doc52-01.html

CalPERS Long-Term Care forms due Aug. 31

The 2004 CalPERS Long-Term Care application period ends Aug. 31. Long-term care provides the

extended care you would need when, because of a chronic illness, injury, or old age you need help with basic activities like dressing, bathing or eating. Generally long-term care is not covered by health insurance, disability insurance or Medicare. The program is available to all California public employees and retirees, including University of California employees and their family members. Applicants may choose from a broad array of benefits options in each of the three CalPERS Long-Term Care plans. Premiums are age-related. The younger you are when you apply, the less a plan costs.

An informational video and application kits regarding the CalPERS Long-Term Care Program are available in the Benefits Office, Bldg. 571, room 1205. For additional information, see the Benefits Website at www.llnl.gov/llnl/02employment/benefits/benefits.htm or call 2-9955.



NEWS YOU CAN USE



Summer Student Calendar



Go to the Lab's Student Bulletin Board at <http://education.llnl.gov/sbb/> for details about seminars, panel discussions, tours and other activities. Register for events online.

Tuesday
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ICMT seminar

"Effective Architectures for Scientific Programs," by Paul Dubois, Center for Applied Scientific Computing (CASC). 1:30 p.m., Bldg. 219, room 163. Contact: Paula Ashley, 3-3691.

Wednesday
7

"From Personal to Global in the Ethics of Science," by Alexandra Navrotsky, UC Davis. 11 a.m.-noon, Bldg. 361, room 1140 (BBRP auditorium). Contact: Katie Day, 36490.

This is a comprehensive seminar open to all LLNL and Sandia summer scholars.

Everyone agrees that flagrant cheating (stealing, fabricating or suppressing data, spreading false rumors about co-workers) is unethical. The more interesting and thorny issues arise in the "gray areas" of behavior, in minor everyday dishonesties, and in culturally different perceptions. Ethical issues related to intellectual property, to data analysis, to collaboration and co-authorship, and to the review of papers and proposals will be highlighted by a series of examples from Navrotsky's own experience.

ICMT seminar

"Computational Science at Lawrence Livermore National Laboratory," by Steve Ashby, Computing Applications and Research Depart-

ment. 1:30 p.m., Bldg. 219, room 163. Contact: Paula Ashley, 3-3691.

Thursday
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"The Tale of Two Rikits: SucKit and Hacker Defenders," by Bill Orvis, EE-EETD. 1:30 p.m., Bldg. 219, room 163. Contact: Paula Ashley, 3-3691.

TUTORIAL

Babel Tutorial by Gary Kumfert, CAR- Center for Applied Scientific Computing. 1-4 p.m., Trailer 3427, room 1220. Contact: Gary Kumfert, 4-2580.

Please send your summer student calendar items to lucchetti1@llnl.gov

Technical Meeting Calendar

Thursday
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CENTER FOR APPLIED SCIENTIFIC COMPUTING

"Babel Tutorial: A Language Interoperability Tool," by Gary Kumfert and Tom Epperly, LLNL, Center for Applied Scientific Computing. 1-4 p.m., Trailer 3427, room 1220. If you plan on attending, send email to components@llnl.gov. Contact: Gary Kumfert, (CASC) 4-2580, or Tom Epperly, 4-3159.

UNIVERSITY RELATIONS PROGRAM & IGPP/PAT

"Synthesis of Nanostructures and Study of their Chemistry using EELS," Valerie J. Leppert, UC Merced. 11 a.m., Bldg.

219, room 163. Contact: Paul Dickenson, 3-4855, or Joanna Allen, 3-9225.

Friday
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FRONTIERS IN CHEMISTRY & MATERIALS SCIENCE

"Science and Technology for Future Communications Networks," by Cherry A. Murray, senior vice president for Physical Science Research, Lucent Technologies, Bell Labs. 3:30 p.m., Bldg. 235 Gold Room. Coffee and cookies will be served. Foreign nationals may attend if an approved security plan is on file that includes Bldg. 235. For more information on Murray, go to <http://www.bell-labs.com/org/physicalsciences/profiles/cherry.html>. Contact: Julie Sedillo, 3-3506.

Monday
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CHEMISTRY & MATERIAL SCIENCE/MATERIALS SCIENCE & TECHNOLOGY DIVISION

"Oxide/Semiconductor Integration for Electronics Applications," by applicant Rhett T. Brewer, Rutgers University. 10 a.m., Bldg. 151, Stevenson Room 1209. Contact: Wayne King, 3-6547, or Rebecca Browning, 2-5500.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov. For information on electronic mail or the newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

Looking for furniture or equipment to make your office more functional?

Visit the Second Time Around Store.



It's free!

 **Second Time Around Store**

The "excess" store is located off Avenue J and South Outer Loop.

Academic degree funding requests due to EODD by Aug. 11

The Employee and Organization Development Division is continuing to process requests for funding of degree programs on a quarterly basis. Review and approvals are done quarterly, rather than monthly, by the Student Policy Committee. Deadline for the next submission of Graduate and Undergraduate Academic Plans is Aug. 11. As previously, all requests should be sent to the Education Office, L-728. Requesters will be notified following the Student Policy Committee meeting scheduled for the first Thursday of the following month. For additional information, contact the Education Office, 4-5479.

R&D AWARDS

Continued from page 1

Convention Center in Chicago.

"With this year's awards, the Laboratory has garnered more than 100 R&D 100 plaques for our research and development," said Rokaya al-Ayat, LLNL associate deputy director for Science and Technology.

"An important factor for the Laboratory's success in this international competition is that we have many creative and innovative researchers from different disciplines working together to address challenging national problems," she added.

With its five R&D 100 awards this year, the Laboratory has now garnered 102 such awards since 1978. This year, Department of Energy (DOE) labs won a total of 31 R&D 100 awards.

Other DOE laboratories winning R&D 100 awards this year were: Los Alamos National Laboratory, five awards; Argonne National Laboratory, Oak Ridge National Laboratory and Pacific Northwest National Laboratory, three awards each; the Idaho National Engineering and Environmental Laboratory, Lawrence Berkeley National Laboratory, the National Renewable Energy Laboratory, Sandia National Laboratories, the National Energy Technology Laboratory and DOE, all with two awards each; and Brookhaven National Laboratory, one award.

Protecting against bioterrorism

For the second straight year, LLNL researchers have won an R&D 100 award for developing advanced technologies to rapidly detect the airborne release of biological threat agents.

This year's winner, the Autonomous Pathogen Detection System (APDS), is an automated, podium-sized instrument that can monitor the air for all three types of biological agents (bacteria, viruses and toxins).

The APDS can be deployed for a week without human intervention and can report any pathogen releases in its vicinity to operators at a central location. Work has been under way for about five years to develop APDS.

The primary APDS screening mechanism is for pathogen proteins to be detected with antibodies using advanced immunoassays. Positive antibody results automatically trigger a DNA analysis test using the technique of rapid polymerase chain reaction to provide an independent, complementary confirmation of agent identifications from antibody positives.

The Livermore employees who developed APDS hail from six directorates - Nonproliferation, Arms Control and International Security (NAI); Engineering; Computations; Physics and Advanced Technologies; Chemistry and Materials Science; and the Biology and Biotechnology Research Program. They include: Steve Brown, Keith Burris (retired), Bill Colston Jr., John Dzenitis, Anne Erler, Dora Gutierrez, Bruce Henderer, Benjamin Hindson, Robert K. Johnson, Leslie Jones, Richard Langlois, Ramakrishna Madabhushi, Anthony Makarewicz, Ray Mariella Jr., Don Masquelier, Mary McBride, Tom Metz, Fred Milanovich, Shanavaz Nasarabadi, Ujwal Sathyam, Sally Smith, and Kodumudi Venkateswaran.

Clearing land mines

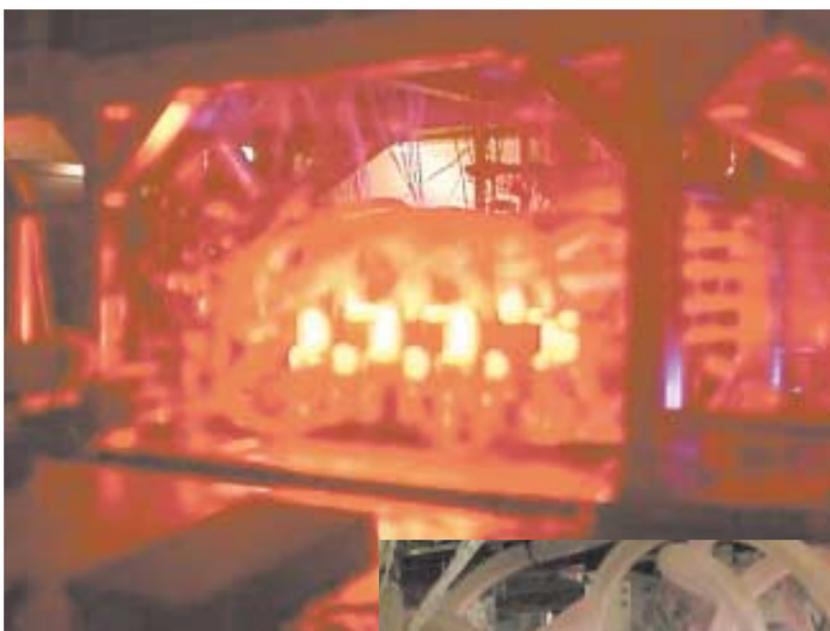
A team of laser scientists and engineers has built upon LLNL's Solid-State Heat Capacity Laser, which is designed to destroy mortars and missiles in short-range battlefield defense.

The new diode-pumped pulsed laser can be used to uncover and safely neutralize buried land mines, which are a worldwide problem. Today, there are an estimated 100 million land mines spread throughout 70 nations.

With an output power of more than 10,000 watts, making it the most powerful diode-pumped solid-state laser in the world, the laser is fired in a pulsed mode, producing a peak power of up to half a million watts. When aimed at a buried mine, this high peak power rapidly heats the ground, causing it to burst aside and expose the mine. Digging rates are up to 40 centimeters per second. Once exposed, the mine is benignly burned out rather than dangerously exploded.

The laser is compact and fits on a vehicle. This advance allows land mines to be safely neutralized at up to a quarter mile away without the need to expose it manually. Attempts to expose mines manually result statistically in one death for every 5,000 successfully neutralized mines. Other laser-based mine-clearing approaches have relied on personnel to go out into the field and dangerously expose the mine before a laser or explosive means can be used.

Another advantage is that the laser significantly reduces the problem of false positives, since the object under examination — a land mine, rock or other debris — can be destroyed in seconds. It is now practical to check all ques-



Above and right: The Lab's Solid State Heat Capacity Laser, originally developed to destroy mortars and missiles in a short-range battlefield setting, is now being used to uncover and safely neutralize buried land mines.



tionable buried items since a mine field can be rapidly checked.

Livermore researchers on this team, from the Laser Science and Technology Program, and Engineering and NAI directorates, are: Mark Rotter, Scott Fochs, Alexander Rubenchik, Charles Boley, Roy Merrill, Bob Yamamoto, Tom McGrann, Sally Gonzales, Scott Mitchell, Bill Manning, Balbir Bhachu, Bruce Roy, Kurt Cutter, Lloyd Hackel and C. Brent Dane, who now works for Metal Improvement Co. Inc.

Riding above the rails

Veteran fusion researcher Dick Post has led the development of a magnetic levitation (maglev) system that uses new arrangements of permanent magnets to create its levitating fields.

Called Inductrack, the maglev system offers a simple, low-cost solution to the country's growing need for efficient intercity and urban transportation networks.

LLNL researchers and San Diego-based General Atomics share this R&D 100 award. Currently, a full-scale, 400-foot-long test track is nearing completion at General Atomics in San Diego, with a full-sized vehicle chassis and all associated power and control systems.

With help from Russian physicist and LLNL employee Dmitri Ryutov, the team found the Inductrack system is subject to theoretical analysis that can be converted into computer codes to accurately predict the system's performance.

Inductrack does not require the complex cryogenically cooled superconducting magnets employed in one of the present types of maglev trains, nor the servo-controlled, powered electromagnets used in the other developed type, both of which are expensive to build and operate. Inductrack employs unpowered arrays of permanent magnets beneath the vehicle. When the train is in motion, the magnetic field from these permanent magnets generates levitation by interacting with a "track" made up of conductors assembled in an array that resembles a ladder with close-packed rungs.

The Inductrack team comes from three LLNL directorates — Energy and Environment; Engineering; and Physics and Advanced Technologies. Besides Post and Ryutov, the team includes LLNL employees J. Ray Smith, Louann Tung, Edward Cook, Joel Martiez-Frias, William Kent and Don Podesta (retired). The team also has 14 members from the General Atomics urban maglev team.

Seeing the big picture

A software architecture called Chromium was designed and developed by two LLNL computer scientists, Randall Frank and

Sean Ahern, in collaboration with researchers from Stanford University, the University of Virginia, Charlottesville, and a commercial company, Tungsten Graphics. Both Frank and Ahern work in LLNL's Computations Directorate.

Chromium provides a way for interactive two- and three-dimensional graphics applications to take full advantage of powerful distributed, graphics-enabled clusters of off-the-shelf or commodity personal computers. It provides an extensible mechanism that allows applications to draw computer graphics imagery on such clusters with a high degree of data, display, and performance scalability, and offers unique capabilities not previously available in existing systems.

Chromium allows most existing applications to run without modification, and enables creation of powerful new parallel graphics applications capable of fully exploiting the power of these clusters.

This advanced architecture draws its name from the phrase "Clustered Rendering," or CR for short. CR happens to be the atomic symbol for the element Chromium, providing the project name.

Since its Open Source public release, the Chromium system has proven to be an extremely popular program, with more than 18,000 downloads of the software. The Chromium

infrastructure has been adopted by a large number of users and is rapidly forming the basis of a great deal of clustering research at national laboratories and a number of other research institutions.

Key advance in silencing genes

While ribonucleic acid (RNA) interference has only recently been discovered, the field has exploded and the technology has the potential to revolutionize biology, the *New England Journal of Medicine* wrote in 2002.

Now, a novel technology — called siHybrids — developed by LLNL biomedical researchers, offers a breakthrough tool for RNA interference, the gene-silencing technique that has revolutionized laboratory research and clinical therapy.

SiHybrids provide a significantly increased gene silencing effect and duration to siRNA, the current nucleotide molecule used in the technique. The new LLNL technology also costs about half as much to produce as siRNA.

SiHybrids have the unique ability to be delivered into cells without the aid of a cytotoxic lipid vehicle, which demonstrates the technology's promising future use in therapeutic agents. A number of applications of the technology are envisioned for both basic research and in improving cancer therapies.

Among the scientists from BBRP working on this research are Allen Christian, Larry Dugan, Alice Chen and Eric Hofmann as well as former BBRP researchers Janelle Lambertson and Rose Latham.

For the past two years, the Laboratory's NAI directorate has supported the siHybrid research.



Sean Ahern shows off Chromium, a software architecture that provides a way for interactive two- and three-dimensional graphics applications to operate on clusters of off-the-shelf personal computers.



AROUND THE LAB

BIO conference brings Russians and industry together

By Stephen Wampler

NEWSLINE STAFF WRITER

When about 65 Russian and Ukrainian biological scientists visited last month's Biotechnology Industry Organization (BIO) conference in San Francisco, they were welcomed by LLNL's Ron Lehman.

Lehman, the leader of the Lab's Center for Global Security Research, also wears another hat — as the chairman of the International Science and Technology Center (ISTC). With this hat, Lehman greeted the researchers.

The ISTC is an intergovernmental organization that promotes cooperative science projects among former Soviet weapons scientists to assist nonproliferation efforts.

During the BIO conference, Russian and Ukrainian biological scientists met with representatives from a number of Western companies to ensure the firms were aware of the scientists' research.

"The Russians said to me that this was the most valuable conference they've attended because there were so

many companies working in areas in which they could contribute," Lehman said. "They are very optimistic and expectant that business relationships will result from these interactions."

It is extremely noteworthy, Lehman added, that Russian science "still has significant contributions to make in what is a rapidly changing technology."

As part of its work, the ISTC manages hundreds of cooperative biological research initiatives at Russian institutes that are funded through the U.S. State Department's Bioindustry Initiative (BII).

Started as a response to the events of September 11, the BII was undertaken to counter the threat of bioterrorism by converting former Soviet biological weapons research to other uses.

One of the BII's aims is to help promote the best infectious disease research in Russia — from nanoparticle delivery of tuberculosis drugs to vaccines for HIV.

Among the goals of the ISTC are: having former Russian weapons scientists apply their skills to peaceful

uses, strengthening their ties to Western researchers, aiding in the transition to free markets and helping their research be used for projects important to their nation and others.

Lehman was nominated to be the chairman of the ISTC by the U.S. government in 1996 and has served in that capacity for the past eight years. The U.S. representative to the ISTC is Vic Alessi, president of the U.S. Industry Coalition, and the chairman of the LLNL Nonproliferation, Arms Control and International Security directorate's advisory board.

Besides a U.S. member, the ISTC's governing board is also composed of representatives from Canada, the European Union, Japan and the Russian Federation, as well as a rotating member from Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic or Tajikistan. South Korea and Norway are also ISTC parties.

With a status equal to that of a diplomatic mission, the ISTC commenced its operations in Moscow in March 1994.

Los Alamos National Laboratory's contract process begins

The Department of Energy earlier this week initiated the process to compete the management and operating contract for Los Alamos National Laboratory in New Mexico for the first time since LANL's creation in 1943.

The National Nuclear Security Administration, a separately announced that parties interested in competing for the contract should submit an Expression of Interest (EOI) that describes their capabilities.

The NNSA is preparing a Request for Proposal (RFP), including the draft contract terms and conditions, that is tentatively scheduled for release in late fall 2004. LANL's contract expires on Sept. 30, 2005.

A Website (<http://www.doeal.gov/LANLContractRecompete/Default.htm>) has been established for the dissemination of all information related to the competition. It will identify when the EOI is due to the NNSA Service Center in Albuquerque. A subscription feature

will be included in the site, which will enable interested parties to receive notice whenever the Website is updated. It will serve as the principal solicitation distribution medium for notices, changes, questions and answers, and the forthcoming RFP.

The actual RFP release date, as well as any amendments to the RFP or other pertinent information relating to the acquisition, will be available on the Website. Additionally, NNSA plans on sharing draft sections of the RFP for public comment as they become available to help streamline the procurement process and initiate industry comments and recommendations.

On June 9, the DOE announced that it would conduct separate competitions for the management of Los Alamos and Lawrence Livermore national laboratories, both managed by the University of California. It also announced that the department would extend the current contract for Lawrence Livermore beyond its current Sept. 30, 2005, expiration date in

order to separate the two competitions.

LANL is currently one of the largest multidisciplinary institutions in the world and the largest institution and employer in northern New Mexico. It has approximately 7,500 employees and approximately 3,200 contractor personnel. Its current annual budget is approximately \$2 billion. About a third of the lab's technical staff members are physicists, a fourth are engineers, and a sixth are chemists and materials scientists. Other technical staff members work in mathematics and computational science, biological science, geosciences and other disciplines.

The contractor will be required to provide the intellectual leadership and management expertise necessary and appropriate to manage, operate and staff the laboratory and to accomplish the missions assigned by NNSA.

DIRECTOR'S OFFICE

Continued from page 1

To ensure our scientific and technical workforce and our capabilities remain best in class, we must define a balanced long-range science and technology strategy. That was the challenge Director Michael Anastasio asked me to undertake more than a year ago. Today, after much planning and deliberation from representatives from every directorate and program, the Laboratory is ready to roll out the Long-Range Science & Technology Strategy, the Lab's first plan to focus specifically on science and technology.

Developing the strategy

Investments in science and technology are the fuel that drives the Laboratory to answer the nation's current and emerging needs. The Laboratory has already shown this through signature capabilities such as large-scale scientific computing, lasers and biodefense, to name a few.

With continuous advances in S&T and increasing urgency to meet national needs, it was time for our Laboratory to take a fresh look at our S&T strategy. This focuses on the areas of interest funded by our sponsors and adds the leverage of internal discretionary investments. To develop our strategy, we engaged a broad spectrum of scientists, engineers and senior managers in the process. During this planning process, we have proceeded to implement the best ideas as they have emerged, while leaving room for new ideas and recognizing that we must continue to revise and refine over time.

The strategy development process has been pursued through teams of scientists in six themes, each led by

two or three associate directors. Spanning the space of Laboratory missions and multidisciplinary S&T, the themes are: Stockpile Stewardship S&T; High Energy Density S&T; Nuclear, Radiative and Astrophysical S&T; Biological, Chemical, and Materials S&T; Information, Simulation and Systems S&T; and Energy and Environment S&T. Issues that cut across these topics were the focus of complementary efforts to identify common themes and overarching areas of interest to identify and build large-scale initiatives.

Throughout the development process, many exciting ideas emerged to enhance the Lab's S&T. Through this effort, we will build on our existing strength and prepare for the future. We have developed a shared vision of the Laboratory's S&T needs and interests in order to maintain a vibrant research environment.

Our S&T development effort is also guiding hiring decisions, institutional investments in facilities and infrastructure, efforts in program building and developing long-term research partnerships.

Keys to success

Our workforce has always been our most cherished asset, and that is certainly the case as we implement our long-range S&T strategy. By investing in people and capabilities, we will sustain the Laboratory's intellectual vitality and ensure that its track record of programmatic successes and scientific and technical breakthroughs continues well into the future.

Numerous initiatives are now under way to reinforce our S&T strategy: workforce reviews and planning; rewarding and recognizing performance; employee career development; strong ties to academic programs as a pipeline for recruiting; and better integration of foreign nationals into the workforce

in a secure manner.

Our S&T strategy is guiding the decisions our senior managers are making in institutional investments and program efforts. The intent is to ensure that our S&T investments are focused wisely to support our missions and provide agility to respond to future needs and opportunities. This is a "living" strategy with flexibility to evolve as the landscape changes and as innovative ideas arise from Laboratory staff.

I invite employees to read more about this strategy in a new Website that will appear on the MyLLNL front page (<https://www-r.llnl.gov/>) next week. On these pages you will find the strategy summary, including introduction to the six themes, their major goals, thrust areas of research and supporting initiatives.

Next steps

We have spent much effort devising this long-range S&T strategy in science and technology, and we now are in the initial phase of implementation. Next steps include partnerships and program development; efforts to ensure consistent integration; facilities and infrastructure; communication; and continual refinement.

It has been an honor taking this project on and seeing it through. For me it is a fitting way to close a wonderful career — the passion that brought me here in the 20th century will be sustained well into the 21st. As I retire after 38 years at the Laboratory, this project will continue under the leadership of Bert Weinstein, associate deputy director for Science & Technology Rokaya Al-Ayat, and the next deputy director of Science & Technology.

The Laboratory is poised to see this strategy through — to explore new ideas and produce innovative solutions to the important challenges facing the nation.

NEWS OF NOTE



Disabled get additional AID through new Library Cafe

By Anne M. Stark

NEWSLINE STAFF WRITER

So on the drive to work, you stop into the Library Café for your daily espresso and croissant. You pay at the counter and you're on your way.

But what you don't realize is that a portion of your purchase goes to help pay for AID Employment.

The Library Café, located at the new Livermore Civic Center Library, is what AID Employment Director Gordon Burkhart-Schultz likes to call an effort in "social entrepreneurship." In other words, he said, "It's another way of saying we are earning our own way."

Non-profit AID (Advancement and Independence for the Disabled) Employment serves as an outlet for placing developmentally disabled workers into meaningful jobs. The subcontractor to the Laboratory also helps to provide long-term stability in family and housing needs to those employees.

When plans for the Livermore Library included a section for food service, AID jumped at the opportunity. John Lafferty, an AID supervisor for 15 years who had previous work experience operating a deli, took the lead on the effort to set up a café at the library.

"We're selling quality products for a reasonable price," said Lafferty, who is now the café manager. "All of the profits generated at the café go back to AID."



JACQUELINE MCBRIDE/NEWSLINE

Gordon Burkhart-Schultz, AID Employment director, sits in the Library Café in the new Livermore City Center Library. Profits from the café go back the AID program.

AID has operated at the Lab and Sandia since 1975 and oversees about 35 disabled employees. It's best known for providing support services such as bicycle maintenance, custodial work and office support. Current staffing levels have plateaued at about 35 employees over the past 10 years, Burkhart-Schultz said. There have been state budget cuts in

the \$300 million range for developmentally disabled support services over the last few years. In order to expand and employ more disabled people, he said they needed to find alternate sources of income.

Burkhart-Schultz said without jobs, disabled people often sit on the periphery of society. But what AID does is "blend them into the fabric of society...our function is to help as many people as we can."

The Library Café is one way AID is doing it. Though no disabled people currently work at the café, Lafferty and Burkhart-Schultz said the eventual goal is to hire disabled people to train under the current baristas.

Through word of mouth, people are trying out the Library Café.

"We're getting more business every day," Lafferty said. "It's been a lot of fun. So far, I think it's just the tip of the iceberg"

in terms of the kinds of businesses AID can run.

Burkhart-Schultz said because the café is proving a success, he hopes to open a full delicatessen in the next few years with the profits, of course, funneling back to AID in another venture of "social entrepreneurship."

FIRE DEPARTMENT

Continued from page 1

their lives on September 11.

Representatives from elected offices and Laboratory senior managers paid tribute to the Laboratory for service to the Lab as well the community, which "has been nothing short of outstanding," said Glenn Mara, deputy director for Operations.

"For most major incidents in California in the last 40 years, from wildfires to floods, from earthquakes to riots, the Lawrence Livermore Fire Department has been there," said Lab Fire Chief Randy Bradley.

Representatives from the offices of state Sen. Tom Torlakson, Assemblyman Guy Houston, Alameda County Superintendent Scott Haggerty and Livermore Mayor Marshall Kamena also offered praise, in the form of proclamations and letters of congratulations.

The fire department has come a long way from a piecemeal force that started with just eight firefighters protecting only the Laboratory site. Since that time it has evolved into a state-of-the-art facility, with 45 highly trained uniformed staff and 79 personnel. In addition to the main site and Site 300, the Lab Fire Department provides mutual aid to the Livermore-Pleasanton, Alameda County and Tracy fire departments.

The Lab Fire Chief serves as the Alameda County Operational Area Mutual Aid coordinator, providing firefighting and emergency medical dispatch for Alameda County, the City of Alameda, Fremont, Union City and Camp Parks firefighters. The center handles approximately 60,000 emergency calls annually, with other fire departments scheduled to join in the

coming year.

Bradley says the Lab pursues mutual aid response as a way of keeping firefighters trained, and giving to the community.

"We pride ourselves on being good neighbors. That means making sure small fires don't become big fires, being ready to help no matter when or what, and maintaining a world-class facility."

In describing the history of the department, Bradley said the fact the Laboratory

has experienced a half dozen major incidents in 50 years is a testament to the quality of fire protection and prevention the department brings to the Lab. "We are the Lab's fire insurance policy," he said.

Both Mara and Den Fisher, the outgoing AD for the Safety and Environmental Protection Directorate, which runs the Fire Department, recalled one such incident: the failed landing gear of a passenger plane bringing employees back from the Nevada Test Site. The plane was forced to make a hard belly landing at the Livermore Airport. Both Mara and Fisher were on that 1987 flight, and recalled how the Livermore Fire Department had already arrived at the airport to await the crash landing and respond to whatever happened.

"I'm one of their customers," Fisher said. "I'm grateful for their quick response and the degree of care they provided for the passengers on board." (No one was seriously injured on that flight.)

"It's comforting to know we have a fire department on site in case of any emergency," said Camille Yuan-Soo Hoo, manager of the Livermore Site Operations Office for NNSA. "They are an excellent example of community support."



Veterans Association hosts activities in July to honor Veteran's Observance Month

July has been designated as Veteran's Observance Month and the Lawrence Livermore Laboratory Armed Forces Veterans Association (LLAFVA) is sponsoring a series of activities. On Tuesday, July 6, former Lab physicist and Secretary of the Air Force Thomas Reed will discuss his new book, "At the Abyss: An Insider's History of the Cold War," at 7 p.m. in the Pleasanton Veterans' Building, 301 Main St., Pleasanton.

Reed's talk is sponsored by Air Force Association Chapter 120, American Legion Posts 237 and 333, VFW Post 6298, the Tri-Valley Council of American Veterans Coalition (including LLAFVA) and Towne Center Book Store. For more information, contact Robert Frank, president of Air Force Association Chapter 120, at (925) 846-1970.

A Laboratory veterans display case will be formally dedicated at noon, Wednesday, July 7, in the lobby of Bldg. 111. The following week on July 14, a panel of Lab veterans deployed in Afghanistan, Bosnia and Iraq will discuss their experiences at noon in the Bldg. 543 auditorium. Activities will culminate with a noon July 28 steak barbeque and membership drive in the Lab pool area.



NOTABLE ACHIEVEMENTS

LLESA to celebrate 50 years of employee services

The year was 1953 and a new laboratory, known as the University of California Radiation Laboratory (later known as LLNL), was established to meet the country's needs in a changing postwar world. The Laboratory's central mission was to keep the world secure in a new "cold war" era.

Women were entering the workforce and the Laboratory was slowly expanding. Management and employees took a closer look at their new organization. What they saw was a need for something — something that would give employees a chance to get to know each other better. In the spring of 1954, that something became the "Rad Lab Recreation Association." In 1974, it became LLLRA, the Lawrence Livermore Laboratory Recreation Association.

Through the years, the dinners and other social activities of the early decades were replaced by new services, which met the needs of a changing workforce — child care, family activities, time-saving exercise and shopping options, travel, employee activity/diversity groups, educational programs, coed sports teams and leagues, and special events were offered. The association's name was changed once more in 1995 to more accurately reflect what it does, to Livermore Laboratory Employee Services Association (LLESA). Just call it the "employee association."

Some names may have changed but the purpose of the employee association has remained the same — to bring employees together informally in a way that helps them communicate and cooperate with one another in the formal work setting and to save employees time and money.

Lab management has asked its employee association to oversee and manage:

- Employee activity groups since 1954.
- Exercise and sports programs since 1963.
- The employee store since 1973.
- The retirees association since 1984.
- The child and infant care program since 1986.

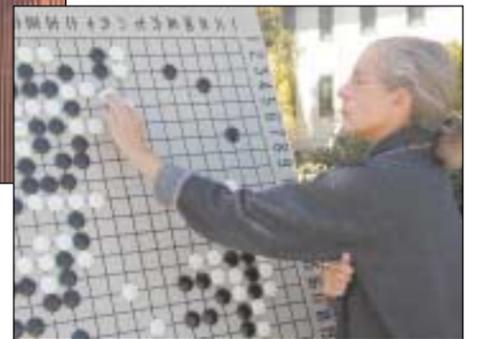
The Laboratory, in partnership with its employee association, has found a way to provide employee services better (more simply, effectively, and efficiently) than any other alternative. The Laboratory has led with creativity and innovation.

LLESA presently provides a broad scope of employee services as defined in an agreement with LLNL. Operationally the association (LLESA, Inc.)

LLESA fete set for July 15

The Livermore Lab Employee Services Association (LLESA) will celebrate 50 years of employee services at LLNL with food, fun, and prizes on Thursday, July 15, from 11:30 a.m. - 1 p.m. at the picnic area near Bldg. 317.

Attendees can try the baseball speed throw, enjoy a free chair massage, climb a rock wall, and check out other games and exhibits. They can support the LLL Armed Forces Veterans Association and buy a BBQ lunch meal. They can sign up in the LLESA Office (Bldg. 415, room 142) by July 7 for the special anniversary drawing and have a chance to win an iBook, iPods, an autographed basketball, Monterey Bay Aquarium and Magic Mountain tickets, and much more. Winners must be present. The drawing registration form and event information is available at <http://llesa.llnl.gov/> under the palette labeled 50 Years of Employee Services. For more details, call the LLESA Office at 2-9402.



is a non-profit public benefit corporation, which is legally separate from the Laboratory, and stands alone in carrying out its day-to-day business. However, the Laboratory understands that the employee association as a corporate entity was formed at the request of Lab management, and exists solely to serve Laboratory employees and LLESA members.

For years, Lab employees have enjoyed the recreational activities offered by LLESA. Some of LLESA's activities include the Vintage Vehicle car show, above, juggling, as shown by Lab employee Joseph Bartelt, upper right, and the Go Club, lower right, as shown by Lynda LoDestro.

Discovery Center to open doors on Saturdays

In order to better serve the community and visitors, the Laboratory's Discovery Center will extend its hours to include Saturdays, from 10 a.m. to 2 p.m. The new hours will be effective July 10 and will be in addition to the current operating hours of Monday through Friday, 1 to 4 p.m.

The Discovery Center is a window into the Laboratory, offering a look at its past, present and future. A history tunnel welcomes visitors with both the sights and sounds of scientific achievements over the past five decades.

The center is divided into three distinct zones, representing the major areas of the Lab's focus: Safety, Reliability and Performance of the U. S. Nuclear Stockpile; Homeland Security and the War on Terrorism; and Science and Technology in the National Interest. A unique video viewing area is available inside a small replica of the National Ignition Facility (NIF) target chamber.

Everyone is welcome at the Discovery Center, located on Greenville Road at East Gate Drive in Livermore. No badging is necessary. Contact Linda Lucchetti, Discovery Center coordinator, at (925) 422-5815 for further information, or check out the Website at <http://www.llnl.gov/llnl/06news/Community/visitor.html>.

In addition, a two-hour community tour of the Laboratory is offered on Tuesday and Thursday mornings. Groups and individuals interested must apply two weeks in advance and be older than 18. Non-U.S. citizens must apply 60 days in advance. To register for a tour, call (925) 424-6575.



GRABOSKE*Continued from page 1*

as acting deputy director.

"I thought I'd stick around for a few months, but it turned into two years," he said, chuckling. "Now it's time. The Lab is doing great. We're at the top of our game and I've done everything I set out to do. It's time to let others step up."

That being said, Graboske quickly allows that he has mixed feelings about leaving. "The quality of the people here is so strong. Granted, anyone can say that about any institution. But here, I lived it. I saw it. It will be hard to lose that connection, but the easy part is knowing the people we have and will keep this Lab at the peak of its capabilities."

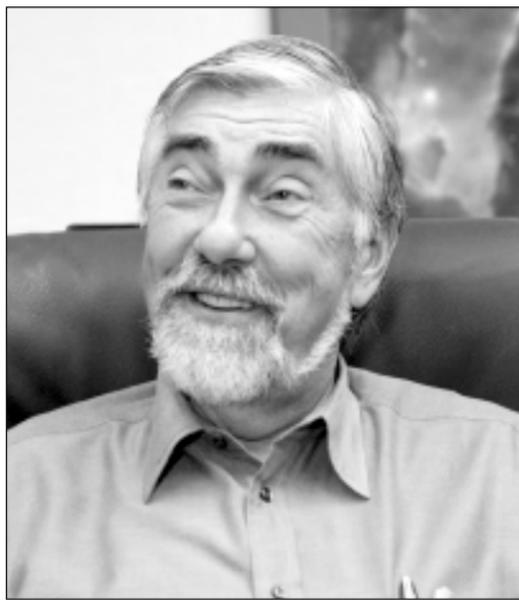
"It's been an honor to work with Hal all these years," Anastasio said. "I am particularly grateful to Hal for his extraordinary dedication and exceptional efforts. Hal has used these past two years to identify and articulate the key elements of the Laboratory's S&T future among many other activities. Over the last 24 years, Hal has been a most influential and successful leader and, in his current position, an essential member of my senior management team."

Ever since his arrival to the Lab in 1966, Graboske has always based his career on what is best for the institution.

"He's a special leader," said Lori Souza Turpin, who served as Graboske's deputy associate director for Planning, Development & Personnel in the CMS directorate, as well as serving with him on several committees, among them the Human Resources Working Group, a Survey Action Team, the Administrative Salary Committee and the Brokering Committee.

"Hal has a knack for bringing out the best in other people," Turpin said. "He was always challenging me to push harder. He wants people to be at their best, and

“
I've been honored to be a part
of (the Lab),
and I look forward to
watching the next
generation step up and
continue this great work we do.
”
— Hal Graboske



"I was a stranger in a strange land, but the people of that directorate really rallied around. I ended up enjoying it more than any physics job I had because it meant learning many new scientific aspects at a high rate – it was very challenging."

Under Graboske's leadership, the Chemistry and Materials Science Directorate worked with Defense and Nuclear Technologies to strengthen materials and chemistry elements of stockpile stewardship; worked with the National Ignition Facility Directorate to create, produce and test the new laser and optical materials needed; and col-

laborated with the Nonproliferation, Arms Control and International Security Directorate on inventing new technologies and processes for countering weapons of mass destruction.

During Graboske's tenure, the directorate won national science awards for laser materials, radiation detection technologies and crystal growth, and worked jointly with the Dubna Laboratory in Russia to discover two new elements.

"One of the best things about this Laboratory is its flexibility," Graboske said. "You can do so many different things here and excel in all of them." "Couple that with the quality of the people here, and I sometimes find myself wishing I had more time." Despite the mixed feelings, Graboske quickly adds he's looking forward to a little down time. "I've got about a hundred books I've bought but not read, and my wife has a few things for me as well," he said.

Graboske also plans to do some traveling as well as spend time with his grandchildren, four living in California and two more on the way.

"It's been a great career," Graboske summed up. "I'm proud of what I've accomplished and I am even more proud of the work we do. We've always prided ourselves on being at the top of our game and working for the country's security."

"I've been honored to be a part of it, and I look forward to watching the next generation step up and continue this great work we do."

he knows how to get that out of them. "He's always especially good at being able to find that diamond in the rough."

Graboske came to the Lab after working eight years in the aerospace industry. He was a postdoctoral researcher working with materials at extreme conditions, thermodynamic properties of low mass stars and giant planets, and nucleosynthesis in dense plasmas as well as applied studies in weapons materials. He led the theoretical program in the shock physics division prior to becoming the division leader. In 1980, he managed the materials physics R&D program in the weapons area, and in 1984, coordinated the creation of V Division — for performing high-energy density physics in support of advanced weapons concepts.

In 1989, he became the principal associate director in the Physics Directorate.

"Hal has had one of the most productive and important careers at the Laboratory," said former Director Bruce Tarter, a longtime friend and colleague of Graboske's. Tarter appointed Graboske as his deputy in the Physics Directorate.

"Hal's own work on equation of state was a major scientific contribution and his application of it to the weapons program was equally valuable."

Even Graboske admits his career took an odd turn in 1997 when the lifelong physicist was named associate director for Chemistry & Materials Science.

ence & Technology Infrastructure, E&E, has been selected as acting associate director for E&E. He will work closely with Cynthia Atkins-Duffin, the E&E deputy associate director for Strategic Planning, Operations and Resources, in the management of the directorate. Burkhart has an extensive background in geophysics and the containment of underground nuclear tests and subcritical experiments as the program leader for the Defense and Nuclear Technologies' Nevada Experiment-Containment Program. Previously, he was the division leader for the Geophysics and Global Security Division of E&E.

POSITIONS*Continued from page 1*

ing committees are well along in their work to recommend candidates for these managers' successors; however, selections had not been completed by the time the retiring managers departed.

"I am confident that these assignments will provide for effective continued operation of the Laboratory and ask that you give them your cooperation and strong support," Anastasio said.

The following assignments became effective June 30:

Deputy director for Science & Technology (DDST)

Hal Graboske, acting deputy director for Science & Technology, delayed his retirement in July 2002 to join the senior management team in the Director's Office.

Graboske worked at the Lab for 24 years in a variety of jobs.

Rokaya Al-Ayat, associate deputy director for Science & Technology, will assist Anastasio on S&T issues requiring attention during this period. Al-Ayat will continue her role as the director of the Laboratory Science & Technology Office (LSTO), including the management of the Laboratory Directed Research and Development (LDRD) Program, and also will continue to be a major contributor to the development and implementation of the Laboratory's near- and long-term S&T plan.

Associate director for Safety and Environmental Protection (SEP)

Over the years, Fisher has served the Laboratory in a number of management positions, including Mate-

rials Fabrication division leader, associate director for Engineering, Laboratory associate director for Administration and Operations, associate director for Plant Operations, associate deputy director for Operations, and acting deputy director for Operations.

"I would like to thank Den Fisher, associate director for Safety and Environmental Protection, for 33 years of superb service to the Laboratory, and especially the last 25 as one of our most dedicated leaders," Anastasio said.

"Den consistently has been the Laboratory's standard bearer in the safety and environmental arenas. Den has provided a mature, tempered, can-do approach to institutional issues and I have valued his efforts and counsel."

Rex Beach, deputy associate director for Environment, Safety and Health, SEP, has been appointed acting associate director for SEP. Beach has served in a variety of management and technical roles at the Laboratory: the institutional safety officer, chairman of the ES&H Working Group and a Laboratory emergency duty officer (LEDO).

Associate director for Energy & Environment (E&E)

CK Chou, associate director for Energy & Environment, has served the Laboratory for 26 years. He has been a leader in the areas of nuclear fuel cycle, reactor technology and safeguards and security, including the Yucca Mountain repository, transportation and storage packaging technology, depleted uranium disposition, seismic design and base isolation, and risk assessment.

"CK has been innovative in revitalizing the Laboratory's Energy & Environment Directorate and programs and has been an integral and effective member of my senior management team," Anastasio said.

Norm Burkhardt, deputy associate director for Sci-

ence & Technology Infrastructure, E&E, has been selected as acting associate director for E&E. He will work closely with Cynthia Atkins-Duffin, the E&E deputy associate director for Strategic Planning, Operations and Resources, in the management of the directorate. Burkhart has an extensive background in geophysics and the containment of underground nuclear tests and subcritical experiments as the program leader for the Defense and Nuclear Technologies' Nevada Experiment-Containment Program. Previously, he was the division leader for the Geophysics and Global Security Division of E&E.

Chief financial officer (CFO)

Phil Schultz, chief financial officer, has served the Laboratory for 36 years. Beginning his career in Engineering, Schultz emerged to become one of the Laboratory's most valued business leaders in the past 26 years in roles that have included assistant associate director for Resources in the Nuclear Test Program, the Laboratory's budget officer, and finally, the CFO.

"Phil has been an outstanding CFO and has been integral in establishing the Laboratory's institutional excellence in business and financial practices," Anastasio said. "He always provided meticulous and thorough analysis with measured and effective recommendations that have contributed heavily to the Laboratory's success."

Linda Rakow, assistant deputy director for Operations, Business and Finance, has been appointed acting CFO. Rakow will work closely with Lee Elster, the new deputy CFO, in managing the organization.

Rakow started at the Laboratory in the Budget Office and has held a number of senior management positions, including associate director resource manager for Physics, business manager for Defense and Nuclear Technologies, and assistant associate director for Program Planning in the National Security Office.



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AUTOMOBILES

1993 - Plymouth Grand Voyager LE, 3.3l, Pwr Windows, Mirrors, DR Seat, QUAD Seating, 74K miles, \$3500/OBO 925-447-2697

1995 - Ford Contour GL, 4DR in great shape. Good commute car for \$1900.00. 925-518-9677

1967 - Austin Healy Sprite convertible. Green. Wire wheels with knock-offs. Runs well \$3300 obo 925-240-9947

2001 - Black Honda Civic EX. automatic, alloy wheels, CD and spoiler. Very clean inside and out. 11,400 miles. Asking \$14,000. 925-371-5289

1997 - Cadillac Seville STS. Power everything, leather, Northstar v8, 10-disk cd, Bose sound system. Very clean and comfortable car. 98k miles. \$8k OBO. 209-832-3435

1977 - Cadillac Eldorado - 87k miles, good all around, 425V8. Drive anywhere. Single owner vehicle until 2003. Last of the big Eldos. \$3000 925-294-5939

1972 - Datsun 240z project. Needs lots of work, but registered and can be driven home. \$950 OBO. 925-200-9976

1985 - Cadillac Fleetwood Brougham all pwr, cd player, alarm w/remote start. Smog certificate, 160k miles, runs excellent. \$1800 925-449-1340

2003 - 50th Anniversary Edition Corvette. LOADED. 12,500 miles \$39,000. 50Mo/75K GM Warr. and 48Mo/60K GM Smartcare. 925-606-0674

1994 - Mitsubishi Eclipse - GS 16 Valve DOHC. Very good shape. Power windows and locks. AC, 5-speed, cruise control. 112K miles. \$3,700 OBO. 925-245-1114

AUTOMOBILE ACCESSORIES

Four (4) Chevy aluminum rims and tires. \$100 OBO 209-483-8719

VW wheels (steel), tires, hubcaps. Set of four from New Beetle. Michelin 205/55R16, around 30k left on tires. \$100 obo 925-417-7593

4ea. 20 in. 100 spoke rims w/ radial tires and adapter fits 5-lug car tire size 255-352-R20 \$1500 obo 209-830-6189

Porsche 911 floor mats (4), brand new, tan/brown color with Porsche logo. Paid \$125. \$40. 925-648-0671

Lexus RX300 bra. Brand new, still in box. Paid over \$100. \$50. 925-648-0671

BICYCLES

Child's bicycle. Trek 220: 20in. frame, 24 inch wheels. Excellent condition. \$100. 510-339-6375

BMX Powerlite mini, custom-built, Crupi, Answer, Black Widow, excellent condition, extras. \$600. 925-846-5227

Women's mountain bike. Excellent condition. Barely ridden. 21 speed. Costco bike. \$40.00 obo 925-240-7374

BOATS

1985 - Regal Majestic 210. 21ft Chevy V-8 inboard motor Cuddy Cabin, Deep V hull. Good condition runs great. Good for skiing, tubing, or fishing. \$5,000 925-980-6190

2001 20ft Javelin Bass/Ski Boat. 200 Johnson OB, low hrs. Full electronics and gear. Excellent condition

\$7,000 925-447-8913

Kayak: Dagger Vengeance. New, never used with paddle. \$350 925-846-5227

69 Sea nymph, alum, 14ft w/trailer, 9.9 horse, 4 stroke, Merc. low hrs, call for extras, \$3000. 925-443-6515

1986 19ft Chriscraft. Family ski/fish open bow excellent condition 2nd owner 198 hrs. V-8 200hp seats 9. Great boat for the price. \$7,500 925-525-3578

CAMERAS

Nikon N2020 with 50mm Nikkor 1.14 lens and Speedlight SB20 \$40, additional lens, Kalimar 60 300mm \$25 925-449-3488

ELECTRONIC EQUIPMENT

Mac Power Book 170 good shape, runs well asking \$60 obo 925-449-3488

Sony 20in TV, great shape \$100, Pioneer receiver (\$30), Teac cassette (\$15), Pioneer turnable (\$35), 2 speakers (\$20) 415-543-3643

Vintage collectible Apple Computers: Macintosh Pluses, \$5 apiece (with keyboard and mouse) 510-886-3928

GIVEAWAY

Freezer 22 cu. ft. upright good condition. 925-443-1172

Weight set. Old but still works 925-447-7768

Hot tub: older model, above ground, needs some repair. You haul; free. 925-373-0314

HOUSEHOLD

Pair of couches- Southwestern print, good condition \$100; Blue Recliner \$50; Antique looking desk \$25! 209-848-1138

Hard-rock maple bedroom set for sale. Vintage set from 50s or 60s. One dresser with mirror, one high-boy chest, and two nightstands. \$600/obo 925-456-5345

Sofa, very good condition, fabric, salmon and sage stripe, removable cushions. \$30. 925-449-1780

Nice tall bookcase 72 x 32, 3 shelves on top, cupboard doors on bottom with 2 shelves, dark wood \$80 925-449-1823

Hot Wheels T-Wrecks playset, great for young boys, originally \$50, now \$20. Fisher-price toolbox/workbench, \$10, Lego Intellitrain set \$15. 925-454-0877

ENTERTAINMENT UNIT - Solid cherry, 50wx27lx29h. Shelves with pull-out drawers. Custom made - brand new. \$150/obo. DESK - Solid maple 44x22. \$25/obo 925-846-8394

COOK TOP - Jenn-Air stove top, black glass smooth top, radiant heat. 4 years young, works great, have all books and original receipt. \$100 obo. 925-447-4797

Queen size bed, excellent condition. \$300 925-457-3650

Sony 20in TV, great shape \$100, Pioneer Single hospital bed with metal frame (\$25), queen size bed with frame (\$85), single bed with frame (\$50) 415-543-3643

DRAFTING TABLE - 30 x 42 adjustable top & legs, folds flat for storage. Has Borco cover & Mayline ruler. \$50 obo. 209-833-8306

As seen on TV - Flavorwave Deluxe

Newsline and classified ads

Current and past issues of *Newsline* are available from the *Newsline* archive on the Web. The latest edition of *Newsline* is usually posted on the Web the afternoon of the Friday it appears. To access the archive: <http://www.llnl.gov/llnl/06news/employee.html>

Newsline also is available in the publication alcove at the front of the new Livermore Public Library in the Civic Center. The latest editions are delivered to the library at the close of business Friday.

oven - new in box. It bakes, broils, fries, grills, roasts food in minutes. \$86. 209-952-7322

8 foot vinyl sliding door, double-pane replacement type, being removed for remodel. \$500/OBO 925-449-9294

Super single waterbed, bookcase headboard, excellent condition, needs new heater, \$100. 209-599-4644

Window air conditioner, 10,000 BTU used 1 season, w/mounting bracket \$200. 5ft x 3ft dining table/4chairs pine w/walnut stain \$225. 925-634-9976

Jenn Air Electric downdraft slide in range. Good condition \$50. 925-443-1172

Maytag refrigerator, <1yr old, in-door cubed, crushed ice & water dispenser, glass shelves. 23.5 cu ft capacity, 32.75Wx69.25Hx31.25D, \$700. 925-895-7195

Flexsteel L-shape sectional couch. 10yrs old good condition \$275. 209-836-3058

Used Queen size mattress set and adjustable metal frame. \$60. 925-784-1291

Clothes dryer, needs heating element \$40. Wrought iron futon \$40. 925-447-7768

King size headboard. Great shape. Light wood, maybe birch. Mission style, \$35. Bed frame free. Can bring in, if interested. 510-537-4777

Entertainment Center. 6ft x 45in. TV opening 42 x 31. Mahogany veneer, glass doors fold flat. DVD/CDs/video storage. New \$750, now \$250. 925-456-5445

Gun Cabinet. Wood, holds 8 with locking etched glass door and cabinet. Great shape. \$60. Will deliver 925-443-4844

Oak Entertainment center. 5 X 6. Dual back lights, smoke glass doors, stereo shelves. Holds a 33in TV. asking \$250 obo. Will deliver. 925-443-4844

Garage Sale on Friday July 2, 1057 Mission Ridge Drive, Manteca, Children's clothes, toys, household items. 925-846-3548

Amana refrigerator, bought 5-yrs (actual use 2 years), good working condition, \$200 obo. 925-449-1957

Kitchen-Aid washer & dryer, top of the line, in perfect working condition. You move it, \$200. 925-449-0559

1 yr. old Kitchen Magic white microwave. Perfect condition. \$25. 925-606-5509

MEDICAL BED: Single, automatic head and leg lift w/remote control, mattress and side rail avail. 209-529-0431

MOVING: GE elec. dryer 2mos. old \$175, Whirlpool Supreme washer 2yr. old \$175 Whirlpool fridge \$75 9yr. old 925-828-3816

Futon, full size, black wood frame, 2 piece mattress black with purple cover, good condition used in spare room. \$100 209-823-8767

1950s O'Keefe and Merrit gas stove, 35in wide, new chrome, 4 burners with griddle. Works good. \$1500 obo. 209-538-4475

Wrought iron window grill. No welds. 38 x 80. Mediterranean style Interesting pattern. \$350 obo. 925-449-3737

Oak dining room table - round pedestal type with four leaves. 4 matching chairs. \$275. 925-455-9855

Flour Mill- Magic mill II, electric, portable, stainless steel base. \$70. 408-267-4304

Several Thomas Kinkadee paintings with certs, best offer, 209-324-1961

Sectional, 7-piece modular, tan, 2-ends and 2-45 degree turns, Ex. cond., \$400 925-443-8585

White Maytag elec dryer. Great condition. \$115. 925-449-7570

ComputerDesks (2) with Hutch (1LtOak;1WhitWood) with 3RH drawers and keyboard tray; LtOakHutch has 2shelves/WhitHutch has Corkboard & 1upper shelf. \$300ea. 209-892-2118

Corner oak entertainment center. Has room for 36 inch TV, VCR, DVD player, cable boxes, videos tapes and DVDs. Very nice. 209-830-0368

Washer, \$100; Dryer, 1 yr. old, \$400. Both white, Maytags, excellent condition. 209-839-0872

4 HP lawn mower with catch bag. Good condition. \$70. 925-606-0696

Entertainment center, oak, smoked glass doors w/shelves for components. Sliding shelf for DVD/VCR and drawer under TV. \$80 obo. 925-606-1637

Matching black kitchen appliances, \$400 for all. Micro, Dishwasher and gas stove 925-784-2717 209-825-6629

Stereo cabinet. About 4 1/2 ft tall X 2 ft wide. Oak with glass doors. Nice and in very good cond. \$50 925-606-7389

LOST & FOUND

Found - Cat glass holder with prescription glasses inside by T4177. Page at 07121 to claim. 510-555-1212

Found: Set of keys @ intersection of Tesla and Greenville, Thursday midday. Call to claim. 925-960-1988

MISCELLANEOUS

Air compressor Devilbiss 30 gal tank 3.5hp 11.9 CFM pro 4000, electric 110 cost \$350, sell for \$100 925-449-1823

Craftsman 6.75hp High Wheel trim-

mer, used one season, very good shape asking \$180, original price \$360 925-449-3488

Farm implements, all 3 point, 2 bottom plow, scoop brushrake, offer? 209-836-2293

TICKETS - Alameda County Fair discounted tickets. \$6/Adult \$4/Child. Pleasanton Fairgrounds June 25 - July 11, 2004. 925-580-9694

Connoisseur STEREO TURNTABLE. Good condition \$40/obo. Scully Italia womens leather BRIEFCASE. Never used. \$50/obo 925-846-8394

Craftsman/Sears 10in. radial arm saw on rollaway cabinet, in real good condition. \$150 obo. Call evenings. 925-449-1718

Evenflo Ultra Exersaucer \$30 obo. Safety 1st booster seat \$15 obo. A bunch of girls clothing from infant to 12 months. 209-836-4169

Tan sofa, \$30 925-457-3650

CENTURY car seat, SmartMove TX, 20-40 lbs, navy blue, excellent condition, \$60, call after 6 pm 925-455-4947

Pool Table with accessories, excellent condition, \$800. 925-455-8526

2 FAMILY, 2 DAY GARAGE SALE: Rustic coffee & end tables, baby & kitchen items, house sSpeakers & tons more. July 10th and 11th, 732 Leland Way @ 8am. 925-606-1419

Sting Sacred Love concert tickets (2) at Shoreline on 10/2 at 7 pm. Section 101, Row J, seats 14 & 15. \$300/both. 925-648-0671

Closing Nursery-Plant sale every Sat Sun through 7/31 - 1 gal \$1.95, 5 gal \$7.95, 15 gal Shrubs \$24.95, 15 gal Trees \$29.95. 2670 Bixler Rd, Brentwood 925-240-6311

3 Lion King Tickets available for Sun, July 25 performance at the Orpheum Theatre in SF at \$65 ea. 209-471-9923

HO train layout on 4x6ft oak base. Track and most scenery in place. Engine and cars not included. Make offer. 209-823-5845

Trimmer Lawnmower, reel type front throw \$50 925-443-1172

Coupon books. One of San Luis Obispo county and for Las Vegas. Big discounts. New. \$50 ea 925-240-7374

Playstation 2 game - ATV Off Road Fury 2, brand new, still in plastic, \$25 OBO. 925-292-0348

Multi-family garage sale! 1665 Placer Circle, Livermore, Saturday and Sunday (6/26 - 6/27) 8:00-3:00. 606-7941, 925-455-8971

Trolley Crane, mounts to vertical I-beam or wooden beam/wall, ex-Lab, like new. \$250. 209-848-1375

1 Adult discount ticket for Alameda County Fair 2004, \$6. 209-847-9522

Sears Craftsman Lawnmower, 6.0 horsepower, 20in., rear bag, good condition. \$90. 925-516-2331

(2) 16x20 drop in charcoal BBQ grills, came out of a brick BBQ unit. \$30 ea. 209-836-1665

White stereo shelves, nice, \$10. 6 in. bench grinder on stand, \$25. Yakima roll-off rack for Kayak, \$25. 925-447-5221

Chinese Lantern, Pagoda Style, hand carved granite, 8 parts, great garden piece, 68 inch height. \$700 obo. 925-449-3737

Transcriber, cassette, Panasonic RR-830. Has foot pedal & headset. Used about 3 times. \$50. 408-267-4304

Child items: Race car bed w/mat-

Due to space limitations, *Newsline* may withhold ads that have already run. They will still appear on the Web.

tress and bedding, blue, \$100. Changing table w/draw/shelves, \$50, Costco wood train set w/table/drawers, \$50. 925-443-8585

Hamilton 5 foot electric drafting table with Vemco V-track drafting machine. Ex. cond. make offer. 209-538-4475

Breyer Horses- various collection, some new, some used. None in boxes. \$15 ea. firm for full size. 209-484-5816

Moving boxes. Lots of boxes available. Most used once, some twice, all in great shape, several sizes. \$.75 ea. Can bring to LAB. 925-513-4767

Craftsman 10-drawer chest w/5-drawer rollaway, large casters, lock w/key, like new \$200 Rick 209-836-2737

Spa, Caldera Monaco 2000, 6-7 person, 35 hydro jets, dual pumps, foam filled shell. Digital controls. \$2500 obo. delivered. 209-786-8864

Farm equipment. Three legged picking ladders, \$20 ea. Bin trailers (#3), \$400 ea. Weber bin dumper, 300 gallon above ground fuel tank. Make offer. 209-835-5543

Franklin Mint Jackie Kennedy Doll-Limited Edition of 750 dolls, White Oleg Cassini dress \$100. 209-484-5816

Oak A's vs SF Giants at PacBell two tickets. Field Club Seats 3rd base with access to club facilities. Sat. July 3. \$250. 925-516-6244

Breast Pump - Medela Pump In Style. \$50. 925-373-8314

Wheelchair, electric, Quickie P200, \$2500, good condition. 510-440-8851

Teac CD player for component stereo system. Very good condition. \$25 925-606-7389

MOTORCYCLES

1982 - Yamaha MX-100 Dirt/trail runs great! good beginner bike, oil injection no mixed gas! \$575 209-836-3481 209-836-3481

1994 - KX60, excellent condition, trail ridden only, Sparky, green sticker, extras. \$1,200 obo. 925-846-5227

1998 - Kaw 650 KLR, 7K ml. Ex shape, \$3500 obo. 209-832-4535

2000 - Buehl Blast, 500 cc., 400 miles, extra accessories. \$2600 obo 209-869-2833

2002 - Polaris 500 HO ATV. Like new, less than 40 miles. Yellow, many extras. Asking \$5900 obo. 925-960-1788

98 - Invader Q26 Racing Cart, 100cc Yamaha engine, stand, computer, starter, gearing, more, adult owner, rarely used, \$2000 obo. 925-443-8585

1989 - Harley Davidson XL 883 Sportster \$3,800 low miles! Looks great! Sounds great! Mechanically sound! Lots of chrome! Custom tank, paint, & more. 510-793-7074

1988 - H.D. FXRS Low Rider. Nice paint, Avon tires, leather bags, windshield and more. Runs great. \$9500. 925-443-2827

1998 - Honda ACE 1100, black and white custom paint, Lots of chrome, custom parts to dress it, straight pipes, hard & soft cases, have pictures \$6000. 925-513-7425

2004 - 50cc Polini x1 works, liquid cooled, perfect cond. new tires, topend, breakpads, bars, grips, reeds, etc. many extras, bought 09/03 for \$3499, \$2700 obo. 925-354-6431

Race Kart - Invader Cadet-good starter kart for your son or daughter. \$950 obo. 209-838-0304

1998 - Yamaha Warrior ATV, 350cc, electric start, reverse, green stickered, excellent condition, \$2995. 925-408-2906

2002 - Honda Aero 1100cc 3k miles, engine guard, leather lyke bags, custom seat, custom exhaust, excellent condition. \$6500. 209-832-1415

1991 - HONDA CR250, green sticker, rad cage, fmf pipe, repair manual, runs great, call before I change my mind, \$1,500 obo. 209-482-6442

1988 - BMW K100LT, metallic brown, only 11kmi since new. Excellent condition, always garaged and covered. Asking \$4,950. 925-846-1459

MUSIC INSTRUMENTS

Suzuki violin outfit, 1/4 size, also full size student violin, Wolf violin headrest, make offer. 415-543-3643

Chrome snare drum with case - \$60. 925-455-4484

Drumset. Gretsch, low end, 7-piece kit. Includes cases and cymbals. Maroon color. Mint condition!! \$395. 925-373-6255

PETS & SUPPLIES

Two 25-30 gal. fish tanks with all accessories, works well. \$50 ea. 209-848-1138

Australian sheperd puppy, male, 11 weeks old, short hair, wonderful disposition, \$100 call 925-525-1461 or 209-832-7655

Horse boarding, near Pleasanton fairgrounds, feed twice daily, large shaded paddocks \$225, roomy pasture \$200 925-784-5850

Rescued kittens, 10 weeks old looking for loving, responsible homes. black, tabby, & tortoise-shell available. 925-980-1564

Need foster help - litter of kittens (4) w/mama cat, 7 weeks old, rescued from Manteca shelter OR if you are looking to adopt, please call 209-833-0607

Young cat and kittens need loving home. Rescued pregnant mom, now they need permanent homes. Kittens born 4/18. Mom is beautiful siamese. 209-380-1953

Free 1 yr female albino dwarf bunny. All white with gray ears and tail. All supplies included. Needs new home, owner going to college. 925-443-8727

2-AKC registered male Pug puppies. Fawn Color available July 26th. \$700 ea. 209-839-0167

English Springer Spaniel, 1yr, AKC, shots, chip, liver & white, \$400, breedable, friendly, good family pet. Contact 925-373-7349

Nice 20-30 gallon fish tank stand with door front. Near new - \$35. 925-455-4484

Quarter horse, 18 yrs old, 15.5 hh, good ranch/trail horse, loves to hate cattle. \$1200 obo. 209-538-4475

Cat, spayed female, 6 yrs old. Very affectionate and tolerant. Great with young children and other cats. Free to loving home. 925-454-0877

Four year old silkie terrier; free. Male, fixed, all shots and papers. does not shed, partially house trained. Call 925-422-4018 or 925-989-6603

3 Dorper rams. 60+ days old. \$100 ea. 209-847-8264

Beau needs a home! Male lab needs a family to love. He is 8 years old. Great with kids and other animals. 209-835-1128

Tri-colored paint gelding. TB/QH. Used as mount for Elk hunting

guide in Colorado and to gather & rope calves for branding. \$5500 209-838-2808

Two sweet indoor male cats need a home! About 4 yrs old, brothers. We are moving and cannot take them. 925-447-0220

RECREATION EQUIPMENT

North Face sleeping bag, goose down, mummy style 38 oz 86 x 32 hardly used cost \$299 sell for \$50. 925-449-1823

SCUBA stuff - Henderson Gold Core 7mm wetsuit, men's medium, like new, \$160. Scubapro Classic BC, medium size, good condition, \$75. 209-814-5023

Liquid Force wakeboard bindings used 1 season. Size Small. \$100 obo. 925-456-3010

ROWING MACHINE Precor 612 rowing machine, \$20. Old style, no electronics. Perfect condition. 510-733-9802

SCUBA gear. Large cold water Body Glove wet suit. Full set of Regs, BCDs. All name brands in great condition. 209-838-2880

Waterskis - 68in OBrien Competition \$175, pair SuperKid 48in \$50, flatbottomed training ski \$35, 3 ski vests \$15 each, rope/handle \$20. All \$275. 925-634-9976

Wooden Swing set with club House (from Costco). Only asking \$200. 925-321-2753

Nordic Track exercise machine. Excellent condition. \$95/obo. 925-455-6750

Camper, FourWheel brand, 2001, Grandby model configured for extended off-road camping. \$4700 925-447-5194

Golf equipment - clubs, bags, \$10-\$25. Call me for the list. 925-485-1988

2 brand new, never opened, Shimano low profile reels. CU200BSF Curado, \$133 [\$150+tax at Cabelas]. CA200SF Castaic, \$139 [\$170+tax at Cabelas]. 913-829-5989

2004 Winnebago Itasca Sunova 27C class A motorhome. Brand new paid \$79K sacrifice at \$68.5K. 925-606-6338

2002 Polaris 500 HO ATV. Like new, less than 40 miles. Yellow, with many extras. \$5900 OBO 925-960-1788

1981 Yamaha Verago900 twin-shaft drive, Mag wheels, garaged \$750. Rick 209-836-2737

1996 C.J. 2 Horse trailer. With large tack room, fiberglass top very nice condition. \$3500. 209-239-2812 or 209-239-2812

Poker Table, like new, solid oak, green leather surface, folding legs with 8 sides. \$300. 925-825-7571

Sailing gear, foul weather boots and hat, harness, float coat, new gloves and Sospenders inflatable life jacket best offer. 925-606-5808

Treadmill Trimline 7200 Softrak Plus Shock Absorption System w/heart rate monitor exercise programs, displays incline time distance and more \$500. 209-832-4827

Air pistol, Benjamin high compression pump, 177 cal. \$10 obo. 925-443-5525

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.lnl.gov/tsmp>.

Sunnyvale/Cupertino - Looking for additional members for carpool from Sunnyvale/Cupertino area. On 9/80 AWS, hours 7:15-5:00. Contact 408-773-8396, ext. 3-

3170

Brentwood - We want you for our carpool, leave Albertson at 6:30 am - work hours 7:30 to 4:15. 925-516-2687, ext. 3-8927

Danville - 4th driver/passenger needed for carpool in downtown Danville to Lab daily. 422-2567 (work) or (925) 648-4877 (home). 925-648-4877, ext. 2-2567

BERKELEY - Rider/driver needed to complete a four person carpool. Leave North Berkeley at 7am; leave LLNL at 4:40pm. 510-524-8332, ext. 2-5949

PATTERSON - Don't commute alone; Vanpool w/us & take advantage of pre-tax and ride home programs. 7:30-4 shift. Call for info/fares. 209-892-2118, ext. 2-9502

Modesto - 8-4:30. Captain chairs, reading lights. Rate \$120/mo, less w/pre-tax transit program and/or you help drive. 209-521-9047, ext. 2-5177

Ripon - Seeking to join/start non-smoking carpool. AWS 7:30 - 5:30 with following Fridays off: 6/18, 7/2, 7/16, etc. Share driving or pay driver. 209-599-1001, ext. 3-9615

Manteca - Need two drivers from Manteca, start point to be decided. Work time 6:00 to 2:45. 209-239-2812, ext. 3-2522

Modesto Denny's on Salida Blvd off Pelandine - Dave's Luxury vanpool, captain seats, reading lights, cellphone 8-4:45 ridership-based fares 209-576-7764, ext. 3-3194

Oakland - Seeking new ridership for Oakland-Montclair Vanpool. We are on the 9/80 schedule, lab hours 7:30am to 5:30pm. 510-569-7132, ext. 4-5173

Danville - driver/rider needed to complete four-person carpool. Diablo Road area. Work hours 8:15-5:00. 925-831-1569, ext. 2-9858

SERVICES

CONCRETE-foundations, custom, stamped, colored, sealing & more. Over 20 years experience. Free estimates. 408-806-9816

Swim Lessons - Experienced, former LLESA instructor and CSUH graduate; all ages; your home or mine. Certifications. \$50, 4 lessons, 45 min each. 209-835-5031

Sign up for Horseback riding lessons at a fabulous equine facility on Crow Canyon Road with great trainer. Lessons start at \$40. 925-484-0697

SHARED HOUSING

Pleasanton - room for rent \$600 plus 1/2 utilities w/spa and pool privileges. Non-smoker. 925-600-7855

Livermore - Roommate wanted - four bdrm home, private phone line, full privileges, 10 minutes from lab, 1/3 utilities, \$550/mo. 925-447-2670

LIVERMORE - Room for rent, beautiful 4 bdrm./3 bath home, nice area, 7 mi. to LLNL, Indry/kitch. priv., \$500/mo INCL. utilities, 1st/last req. 925-202-6923/ 925-373-0751

Livermore - room for rent, private phone line, cable ready, full priv, N/S, N/P. \$550/mo., \$300 dep., 1/3 utilities. 925-292-3356

RIPON - room for rent. 1458 Denise Dr. Ripon, CA 95366, \$400/month, w/deposit, with full house privileges, pay half utilities, NO PETS (209)823-7665

TRUCKS & TRAILERS

1994 - Chevy Silverado good con-

dition asking \$5,500 located here on site 209-649-3750

1978 - Dodge D150 PU 225ci 6 cyc, 4 spd, camper shell, long bed, good for moving or going to the dump, only 98K miles, owned since 80, \$1250 obo. 925-447-2697

1966 - Massey Ferguson 135 diesel, 35HP, very light use since complete engine overhaul \$3200 obo. 209-836-2293

2001 - GMC Sierra SLE ext cab pickup. 5.3L v8, at, tow pkg, new tires, very clean inside and out. 53K miles, \$16k obo. 209-832-3435

Older tent trailer; make an offer. 925-373-0314

2002 - Toyota Tundra SR5 access cab. V8, 2WD, 22,400 miles, 1 owner, perfect condition. \$19,900 925-463-1832

1998 - Toyota SR5 V6, 5 Spd, 4WD, Xcab, moon roof PS, PW, CC, AC, CD. 103K Miles, \$7,999. 209-839-1525

1986 - Terry Manor 29ft trlr. carpet, tanks, battery, toilet, roof seal <2yrs old. Full awnings, elect. hitch, solar panel. Needs refrig. \$3,950 obo. 925-200-9976

2004 - Haulmark Race Trailer 8-1/2 x 20 ft alum w/ torsion susp, elect brks, stoneguard, D-rings, insulated; used once \$6500 obo. 925-830-5071

1997 - Ford Expedition, Eddie Bauer Package, excellent condition, 3rd Seat. 925-461-3117

1983 - Coleman Royle tent trailer. Sleeps 4. 1000 pounds. Very good condition. \$950. 925-455-6750

VACATION RENTALS

Mountain cabin near Arnold. 4 bed, 2 bath, fully equipped kitchen. Near lakes, streams, hiking. Peaceful, beautiful. 925-245-1114

Sooo cute beach cottage in Santa Cruz. 2 bedr, 2 bath, spa, fully equipped kitchen. Near boat harbor. Lots of room in Sept. 925-245-1114

Solana Beach/Del Mar - Oceanfront condo, deluxe 2br., 2 1/2 ba., fully equiped, tennis, pools, jacuzzi, gated and covered parking, near San Diego attractions. 925-443-2271

SOUTH LAKE TAHOE - 3 Bedroom 2 bath Chalet, nicely furnished, quiet area, all amenities. 209-599-4644

Pinecrest - (Off Sonora Pass Road), 3 bdrm/2 bath, frplc w/wood, microwave, dishwasher, pool table, large deck and view up No. Fork of Tuolumne, \$195/wknd. 925-449-5513

WANTED

Wanted-Two rooms painted ASAP. Come and give me an estimate (Manteca). 209-649-3750

Wanted: Play structure, plastic, such as Little Tikes 8-in-1 adjustable playground. 925-456-5848

WANTED - Genie Remote Garage Door Opener Model AT 85. 9 Pin. FCC ID: B8Q8KL. Freq. 325. This model is 19 years old. 925-447-8753

Looking for Truck camper: like new condition, automatic levelers, to fit 8.5ft. bed truck. 925-455-0398

Lawn edger, gas engine, good condition, 209-854-3418

NARAC

Continued from page 1

event emergency planning,” said LBNL team leader Ashok Gadgil, “but planners currently only have information about outdoor concentrations. This new capability will give planners and emergency commanders access to accurate, real-time estimates of indoor and outdoor toxics concentrations, which provide a basis for informed evacuation decisions.

“Remaining indoors can be much safer than trying to evacuate,” Gadgil said. “The improved NARAC system will finally provide data on which to base these decisions.”

The NARAC enhancement is part of an LBNL-led program to minimize casualties in buildings and transportation facilities from both outdoor and indoor releases of chemical or biological weapons.

Inspired in part by the October 2001 anthrax mailings, the multi-lab effort is aimed at helping the nation’s building managers, emergency planners and first responders understand how to prepare for and counter a weapon of mass destruction (WMD), attack. The project, which also involves Sandia National Laboratories and UC Berkeley, recently received a 2004 Federal Laboratory Consortium award for excellence in technology transfer.

NARAC provides an automated, state-of-the-art atmospheric modeling capability that can predict the movement of nuclear, radiological, chemical, and biological releases in the atmosphere and estimate their potential effect on exposed populations.

While NARAC has traditionally focused on outdoor releases, “the Berkeley Lab team’s spe-



Working with Lawrence Berkeley National Laboratory, researchers in the National Atmospheric Release Advisory Center have added tracking chemical and biological agent releases inside buildings to its capabilities.

cialty is indoor aerosol transport and fate,” Sugiyama said. “We are collaborating with them on developing building infiltration modeling capabilities to predict indoor concentrations from outdoor releases and integrating them into the NARAC system.”

To create the models, the team compiled air infiltration measurements from 70,000 homes and developed a statistical method to predict the distribution of air infiltration for every 8,000-resident census tract in the United States. A key feature of the model is that predictions can be made for particularly “leaky” or “tight” houses as well as typical houses in each area.

Sugiyama said a new infiltration model for residential buildings is now being tested, and the team recently began work on an approach for treating commercial buildings.

The LBNL-led effort also provides advice for building operators through its “Secure Buildings” Website (www.securebuildings.lbl.gov), which has had thousands of visitors viewing more than 40,000 pages since early

2002. The team worked with Sandia to provide recommendations to airport managers on preparation, training, and event response; and it created first responder training materials for the California Peace Officers Standards and Training Agency, which has used the materials to train police officers throughout the United States.

“These efforts have improved the readiness and safety of the nation’s police officers, the security of the nation’s buildings and their inhabitants, the effectiveness of local emergency response, and the safety of the U.S. air transportation network,” Gadgil said. “A major attack may still have consequences, but they will be lessened because of the project’s scientific

work and outreach.”

NARAC, a Department of Energy operational asset, supports the Nuclear Incident Response Teams, the Federal Radiological Monitoring and Assessment Center, the Department of Homeland Security under a DOE-DHS Memorandum of Agreement, and 40 DOE and Department of Defense online sites, as well as a number of state and local agencies. The NARAC system includes both stand-alone local plume modeling tools for end users’ computers, and Web- and Internet-based software to provide access to advanced modeling tools and expert analysis from the national center at LLNL.

The Federal Laboratory Consortium is a nationwide network of more than 600 national laboratories from 16 federal agencies that recognizes outstanding work in transferring technology from the labs to the public and private sectors. LLNL received an FLC award earlier this year for RadScout, a portable radiation detector used to screen for dangerous radioisotopes in luggage or shipping containers.

Sure shot



BILLY JOHNSON/NTS-BECHTEL

During a visit to the Nevada Test Site last week, LLNL Director Michael Anastasio gets a hands-on view of a projectile used in the JASPER Gas Gun while LLNL scientist Neil Holmes (left) and JASPER Operations Manager John Miller explain the details.



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